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ABSTRACT

By 2010, when the information age and a service-oriented economy should be thriving, accessing, manipulating, and interacting with information will be the most desirable career skills. Educational reform programs designed to improve these skills through the development of competency-based education programs, instructional technology, and critical thinking skills have already had an impact on school information programs, and will greatly influence the school information center of the future. Individual learning stations, the use of online reference services and interactive databases combined with print materials, the reduction of professional manual labor tasks, and an increase in competency-based and individualized instruction will result in an expanded and vital role for information centers in enhancing the instructional process. Moreover, as available technology and instructional methods diversify, the information specialist will need to develop a systematic and continuing program of teaching information access. It is, therefore, essential that the specialist be active in curriculum development and instructional design, particularly in the area of developing and evaluating appropriate software, and develop expertise both in teaching such skills as database searching and in designing and maintaining technical services. Such planning for future change will not only help to improve the education of students but will also lead to increased professional growth. (KM)

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2010: AN INFORMATION ODYSSEY

by

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An odyssey, much like Odysseus' after the Trojan War, is a series of long, fruitless wanderings with an occasional notable experience. As we look to the future, what might the odyssey of the school media center be? Will there be major changes in education by 2010? Based on what we know, will these changes be judged worthwhile? Who is leading this journey, and what might others want from us professionally? The answers to these questions, obviously, are unclear; however, one can sift through the volumes of futuristic speculations and analyze the clues that may answer these questions.

It has been well documented that we are currently entering the information age. By 2010, the information age and a service oriented economy should be thriving. For this age, information will be the most important resource available. Accessing, manipulating and interacting with this information will be the most desirable career skill. But to acquire this manipulative skill, the person must possess excellent abilities in both reading and writing. These abilities are of the utmost importance if one is expected to interact and succeed in the information age.

Recently, publications such as A NATION AT RISK, the Holmes Report, and the Carnegie report A NATION PREPARED have initiated educational reform movements throughout the country. Some educators have suggested that this reform movement would fade quickly. It hasn't. In fact, many

schools find themselves addressing reforms that are beyond the scope of these reports. As these changes in education continue to progress, their impact on school information programs can be generalized into the categories of competency based education programs, instructional technology, and critical thinking skills.

The use of competency based education as a curricular and instructional model will become more prevalent. Because of the implementation of competency based education programs which focus on individual needs, instruction incorporating advanced technology will be integral in meeting the individual needs of students. The combination of technology, objective oriented learner outcomes and the need for outstanding reading, writing and thinking skills has a tremendous potential impact on school information centers of the future.

Most assuredly, technology will play a more important role in the information center. It will change reference and technical services as well as supplemental learning activities for children. Technology does not make jobs obsolete; rather, it reduces the amount of manual labor required to perform a specific task.

We are already seeing on-line reference and literature search services being used. By 2010, the utility and hardware/software cost of encyclopedic or "fact finding" on-line services will be within the reach of all school systems either individually or through consortia. These

on-line services will also have enough detail, cost-effectiveness and flexibility of user group sizes that the range of reference services available to schools will expand dramatically.

Interactive databases on almost any topic should also play a major role in the future information center. While entry difficulties with computers may temporarily increase, eventually utilization difficulties will decrease proportionately. In the future, it will be extremely important that entry and search vocabularies are consistent and controlled. Hopefully, excessive "computerese" can be avoided.

Both on-line reference services and interactive databases will exploit the utilization of electronic publishing. Students will be able to print periodical articles, fact data and bibliographies on demand. Bibliographic and collection networks among individual schools and districts will develop to expand even further the information pool available to teachers and students.

As mentioned earlier, competency based and individualized instruction will continue to expand. To assist with instruction focused on individual students, the information center will also house individual learning stations. Each station will contain a computer as well as an interactive audiovisual device. These devices could be a ROM compact disc, a videorecorder with interface cards or an interactive videodisc. This will permit students to work

independently on additional learning activities or personal projects.

Throughout this discussion of technology, one should by this time be asking "what about books and printed materials"? Contrary to the opinions of some futurists, the book will not become extinct for several reasons, especially if reading and writing are to be the essential skills for success.

On a practical level, it is doubtful that information centers will completely abandon their current collections. Too much has already been invested in both funds and effort; however, careful thought should be given to volumes that may or may not be replaced.

On a curricular level, a writing course cannot be taught without reading and books will still be a popular instructional aid. In addition, the "whole language" concept of language arts instruction will not be realized unless books are used as instructional tools.

On an esoteric level, books will continue to be a one on one emotional experience that cannot be replaced. Also, the format of books will enhance their popularity. You can put a paperback in your pocket or purse and read at lunch or at the beach. Generally, research indicates that computers do not stimulate pleasure reading even if interactive fiction is used.

The third trend in educational change is indicated by national assessments and local evidence that propose a greater emphasis on teaching critical thinking skills. The

information program can address critical thinking by modifying the directional service now provided through the reference interview. Generally, information seekers will want the professional to refine the question or screen and sift information alternatives. Methodology may include more emphasis on student generated responses with the specialist assuming the role of facillitator rather than answer provider.

At this point, one can draw several conclusions about the school information center of the future. There will be a mixture of technology and print materials that will be selected based upon their satisfaction of curricular needs and their cost-effectiveness. Professionals will not be replaced by machines; rather, manual labor tasks will be reduced. And as instruction becomes more competency based and individualized, the information center can fill an expanded and vital role in enhancing the instructional process. With these conclusions in mind, a theoretical approach to information services, teaching, and program management as well as the information specialist's role can be considered.

As available technology and instructional methods diversify, the task of providing comprehensie information skills will become more acute. If the potential of the new technologies are to be realized, students will need the training to access the devices independently. The information specialist will need to develop a systematic and

continual program of teaching information access. In addition, the specialist will need to be skilled at working with students pursuing independent and competency based learning objectives.

Throughout this article, information centers have been discussed in generic terms; however, differences between elementary and secondary centers will exist. A survey of both literature and expert opinion tends to direct these differences into two categories: the quantity of print materials and the levels of technological complexities.

Print collections will be larger in elementary schools than in secondary schools. This is due to factors such as beginning and improving reading skills, larger print and artwork formats and the speed at which children complete one book and move on to another. Reading research continues to support the idea of exposing children to good literature; therefore, storytelling and book talks will continue to be effective instructional tools that necessitate larger elementary print collections.

The second categorical difference is the varied technological sophistication of elementary students. One automated system may not meet the diverse needs of this student population. To facilitate the effective use of technology at the elementary level requires planning the instructional goals and extensively evaluating software. This planning and evaluation process should provide the best

match of student needs, curricular goals and appropriate technology.

After examining the issues brought forward by research, there are many factors that will shape the role of the information specialist of the future. Most assuredly, the professional who discharges only the traditional acquisition, organization and management of books will have less support than one who is truly integrated into the information processing infrastructure required to serve the entire school community.

This necessitates that the professional be immersed in the development of curriculum and active in the instructional design process. As the educational reform movement continues, it is imperative that the specialist knows the curricular objectives and can design enhancements to instruction using the various tools available.

As one looks at the logical progression of curriculum development, teaching methods and instructional materials, the function of the professional in developing and evaluating appropriate software will be of paramount importance to the success of students and schools. This software activity may take the form of creating instructional computer applications, managing or producing interactive video, coordinating satellite transmitted instruction, or managing modem transferred lessons and information.

Another factor shaping the specialists' role will be their activities as teachers. Not only will they continue

teaching information skills and related disciplines, they will also be teaching database search skills, the uses and applications of technology and, perhaps, assisting students enrolled in independent study and experimental programs.

Finally, the specialist will have to provide and maintain the technical services of the center. As we look at current techniques, it is becoming increasingly evident that every phase of a school's "recordkeeping" process is becoming automated. Whether the system is optically entered or keyed by a social security number, the information center will want to have a system that is compatible with others in the building or the entire district; a systems approach to automation.

When one plans the design of the center of the future, there are three philosophic agreements that must be reached. First, the physical form of the center must follow the desired functions. Secondly, when laying out the use of floor space, like concepts should be grouped together. And finally, a systems approach for implementing all forms of print, non-print and technology should be designed.

Using these three philosophies, an attempt can be made at identifying "concept areas" of the future information center. While not meant to be a totally inclusive list, the center will contain functional areas such as

an electronic card catalog and bulletin board
interactive databases with electronic printing capabilities
independent learning stations
electronic circulation, cataloging and networking space

stacks and vertical files
flexible space group instructional areas
audiovisual production and storage
individual work/preview rooms
faculty area with instructional management capabilities

The center will also have the required office and storage space and other facilities that are deemed appropriate for the school's specific needs.

Changes will come to school libraries as we know them today. They are inevitable; however, changes can be directed in positive directions with planning and commitment. The information odyssey does not have to be a series of long, fruitless wanderings. Rather, it can be an exciting series of guided, notable experiences that will improve the education of students and lead to increased professional growth.